REMARKS

Reconsideration of this Application is respectfully requested. Upon entry of the foregoing amendments, claims 1-40 are pending in the application, with claims 1, 11, 14, 24, 27 and 38 being the independent claims. Support for the subject matter of the amended claims is contained in the application as originally filed. Because the foregoing changes introduce no new matter, their entry is respectfully requested.

Based on the above Amendment and the following Remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Objections to the Specification

The Examiner made objections to the specification based on the length of the abstract. Applicants respectfully submit that the Examiner's objection has been overcome as the abstract has been amended herein to less than 150 words.

Rejections under 35 U.S.C. § 112

The Examiner has rejected claims 2-4, 11-13, 15-17, 21, 24-26, 28-30, and 38-40 under 35 U.S.C. §112, second paragraph as being indefinite.

While Applicant disagrees that the several recitations of the term "and/or" render the claims indefinite, to expedite prosecution, claims 2-4, 11-13, 15-17, 24, 28-30, and 38-40 have been amended herein to conform to traditional Markush grouping language. Applicants respectfully submit that the rejection of these claims are overcome by the accompanying amendment thereto.

Claim 21 has been amended to depend from claim 20, which provides proper antecedent basis for "said CAD/CAM system."

Rejections under 35 U.S.C. § 101

The Examiner has rejected claims 14-26 under 35 U.S.C. §101 as being directed to non-statutory subject matter.

The Examiner indicated that claims 14-26 are directed to non-statutory subject matter, indicating that the claimed program products are "interpreted as software, per se, as they do not produce a tangible result." The Examiner also quoted a passage of the M.P.E.P. relating to process claims. Applicant respectfully submits that program products are not processes, and as such, the referenced passage has no bearing on the patentability of claims 14-26.

Instead, Applicants direct the Examiner's attention to M.P.E.P. § 2106.01, "Computer-Related Nonstatutory Subject Matter." The first paragraph of this section, among other things, defines "functional" vs. "nonfunctional" descriptive material:

> "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component.... "Nonfunctional descriptive material" includes but is not limited to music, literary works, and a compilation or mere arrangement of data.

Given these two definitions, Applicant asserts that the claimed "instructions" for carrying out specific, material steps recited in independent claims 14 and 24 impart functionality, and are therefore functional descriptive material.

In the subsequent paragraph, the M.P.E.P. goes on to state: "When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases." *Id.*

Applicant therefore respectfully asserts that the preambles of independent claims 14 and 24, that is, "A computer program product in a computer-readable medium", coupled with the functional descriptive material recited in the limitations of these claims, render these claims, and their dependents, statutory subject matter. Withdrawal of this rejection is respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 1-40

The Examiner has rejected claims 1-40 under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,640,605 to Gitlin ("Gitlin") and U.S. Patent No. 6,233,533 to Gupta ("Gupta"). Gitlin and Gupta, taken individually or combined, fail to teach or suggest the method of designing a desired fold line of the present invention including the step of populating the fold line with a fold geometry having cut zones configured for edge-to-face engagement during folding, as is called for by independent claims 1, 11, 14, 24, 27 and 38.

Although the Examiner relies on Gitlin as allegedly teaching "upon folding said material along said fold line produces edge-to-face engagement of said material on opposite sides of the cut zones (figure 9 edges 34 on face 10L)", *see* Office Action, page 5, Gitlin fails to disclose or suggest such a feature. Instead, Gitlin discloses a method of bending sheet metal in which thinned regions 14 are provided on either side of bending line A to form twisted portions 40. *See* Figs. 8-10. While Gitlin suggests that an outer sidewall 34 of each thinned region 14 distorts to abut against the rear surface 38 (*see* column 7, lines 1-7), Gitlin fails to teach or suggest an edge (i.e., the intersection of a sidewall 34 and the planar surface of sections 10L or 10R) engaging an opposing face.

In contrast, the invention of claim 1 calls for a method including, *inter alia*:

> populating said fold line with a fold geometry including a series of cut zones that define a series of connected zones configured and positioned relative to said fold line whereby upon folding said material along said fold line *produces edge-to-face engagement of said material on opposite sides of the cut zones*

Exemplary embodiments of such edge-to-face engagement are described and illustrated in detail in application 10/256,870, now U.S. Patent 6,877,349, which '870 application is incorporated by reference in the instant application. For example, the method described in the '870 application includes the formation of a plurality of slits, each defining opposing faces and having an edge, such that an inside edge of one of the faces engages the opposing face and acts as a fulcrum during bending. For example, each slit (e.g. slit segments 51, 52, and 243) defines opposing

faces (e.g. faces 51b, 52b) having edges (e.g. edges 51a, 52a). *See* Figs. 5A' & 5B', of the '870 application reproduced below.

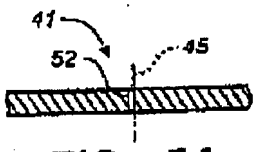

FIG._5A

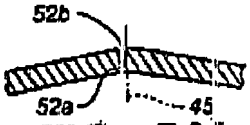

FIG._5A'

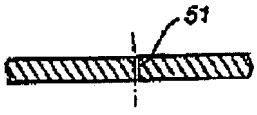

FIG._5B

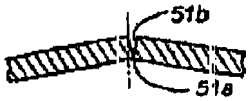

FIG._5B'

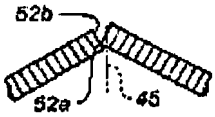

FIG._5A"

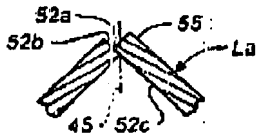

FIG._5A'"

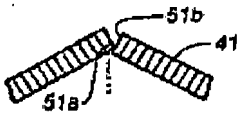

FIG._5B"

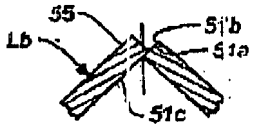

FIG._5B'"

These corner edges engage the respective opposing flat faces (e.g. edge 51a engages opposing face 51b, *see* Fig. 5B", and edge 52a engages opposing face 52b, *see* Fig. 5A") and act as fulcrums during bending to produce precise bending along the bend line (e.g. bend lines 45 and 245). Accordingly, Gitlin fails to teach or suggest the presently claimed invention because Gitlin fails to teach or suggest such edge-to-face engagement.

Gupta fails to accommodate for the deficiencies of Gitlin. Although Gupta discloses systems which may be integrated with CAD/CAM systems, Gupta fails to teach or suggest any

system that populates a fold line with a fold geometry having cut zones configured for *edge-to-face engagement during folding*, as required by independent claim 1.

Moreover, Gupta teaches away from the present invention. One aspect of the present invention is designing sheet materials to with a fold geometry that facilitates folding along a desired fold line. For example, cut zones 45 may be populated along a desired fold line 31 to facilitate a user in manually bending sheet material 32 along fold line 31. Simply, the present invention facilitates bending along the line by preparing the sheet material for bending. Populating sheet material 32 with cut zones 45 along fold line 31 "self-informs" the sheet material as to where it will bend.

In contrast, Gupta discloses a system that includes various stations including bending station 18, which may include CNC and/or NC press brakes or other commercially available press brakes. Accordingly, Gupta's system does not prepare a sheet material to facilitate bending, Gupta's system does the bending. As Gupta's system does the bending, there is no need to populate a fold geometry along a desired bend line to facilitate bending, much less to produce edge-to-face engagement during bending.

For at least these reasons, Applicants respectfully submit that Gitlin and Gupta, taken individually or combined, do not render obvious independent claims 1, 11, 14, 24, 27 or 38. Applicant submits that claims 2-10, 12, 13, 15-23, 25, 26, 29-37, 39 and 40, which depend thereon, are allowable over the cited art for at least the same reasons noted above.

CONCLUSION

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawed. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided below.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extension of time or additional claims, and/or credit any overpayment to Deposit Account No. 50-0310 (Order No. 067441-5013-US; Former Docket No. A-69466-5; 470900-00025).

Prompt and favorable consideration of this Amendment and Response is respectfully requested.

Respectfully submitted,

Date: August 22, 2007

By: _____
Victor E. Johnson, Reg. No. 41,546

MORGAN LEWIS & BOCKIUS LLP
One Market, Spear Street Tower
San Francisco, California 94105
Tel: 415.442.1000
Fax: 415.442.1001